



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,544	01/14/2005	Hiroshi Mashima	258285US2PCT	1342

22850 7590 12/20/2006
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LE, TUNG X

ART UNIT PAPER NUMBER

2821

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/506,544

Applicant(s)

MASHIMA ET AL.

Examiner

Tung X. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the RCE received 16 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-5, and 7-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Hoanganh Le
Hoanganh Le
Primary Examiner

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This is a response to the request continued examination (RCE) filed on November 16, 2006. In virtue of this RCE:

- Claims 3 and 6 are now cancelled; and
- Thus, claims 1-2, 4-5, and 7-8 are currently presented in the instant application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4-6 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipate by Yamakoshi et al. (U.S. 6,353,201B1).

With respect to claim 1, Yamakoshi discloses in figures 1-2 a radio frequency power supply structure for use in a device generating plasma (21) by charging a plate-like electrode (12a, 12b, 12c), facing an earth electrode (figure 2 shows the plate-like electrode facing the earth electrode), with a radio frequency power (15), the radio frequency power supply structure supplying the plate-like electrode (12a, 12b, 12c) with the radio frequency power from an RF cable (15), wherein the RF cable is positioned on an external plane (on same plane with a ladder electrode [11]) of a plane (figure 1) formed by the plate-like electrode (12a, 12b, 12c) to connect to the plate-like electrode;

wherein a core cable of the RF cable (15) connects to the plate-like electrode (12a, 12b, 12c) so as to form a smoothly curved continuous surface (figure 15) at a connecting position (13) provided between a core cable (15) of the RF cable and the plate-like electrode (12a, 12b, 12c) on an end peripheral portion of the plate-like electrode (see figure 1); and wherein the plate-like electrode forms a longitudinal grid plate shape (figure 1) facing the earth electrode (see figure 2) having two lateral electrodes (12b and 12c) form two mutually opposed end peripheral portions (see figure 1) of the plate-like electrode, and a plurality of longitudinal electrodes (12a) arranged between the two lateral electrodes (12b and 12c) so as to be connected to the two lateral electrodes (see figure 1).

With respect to claim 2, Yamakoshi discloses that the end peripheral portion of the plate-like electrode where the connecting is provided forms a right angle to the RF cable (15) on the plane formed by the plate-like electrode at the connection portion (13) forms a right angle with electrode (figure 1).

With respect to claim 4, Yamakoshi discloses that the RF cable (15) is directed in parallel with the plurality of longitudinal electrodes (12a) to connect to the plate-like electrode at the connecting portion (13) forms a right angle with electrode (figure 1).

With respect to claim 5, Yamakoshi discloses in figure 1 that the RF cable (15) directly connects to one of the plurality of longitudinal electrodes (12a) at the connecting portion (13).

With respect to claim 7, Yamakoshi discloses in figure 17 that an outer shell (15a), functioning as earth, of the RF cable has a front end elongated to the position of

the plate-like electrode (12a, 12b, 12c) at the connecting position (13) to form an elongated portion that covers the connecting portion (figure 17).

With respect to claim 8, Yamakoshi discloses that a plasma CVD device (21) comprises a radio frequency power supply structure (figure 2).

4. Claims 1-2, 4-6 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamakoshi et al. (U.S. 2001/0021422 A1).

With respect to claim 1, Yamakoshi discloses in figure 8 a radio frequency power supply structure for use in a device generating plasma (1A) by charging a plate-like electrode (303-305), facing an earth electrode (3), with a radio frequency power (5a), the radio frequency power supply structure supplying the plate-like electrode (303-304) with the radio frequency power from an RF cable (8a-8b), wherein the RF cable is positioned on an external plane (on same plane with 26a) of a plane (figure 8) formed by the plate-like electrode to connect to the plate-like electrode; wherein core cable of the RF cable (8a-8b) connects to the plate-like electrode so as to form a smoothly curved continuous surface (see figures 15-17) at a connecting position (the position connecting between the cable 8b and the plate electrode) provided between a core cable (8a-8b) of the RF cable and the plate-like electrode (303-305) on an end peripheral portion of the plate-like electrode (see figure 8), wherein the plate-like electrode forms a longitudinal grid plate shape (see the grid plate shape of electrode 303-304) facing the earth electrode (3) having two lateral electrodes (305) form two mutually opposed end peripheral portions (see figure 8) of the plate-like electrode, and

a plurality of longitudinal electrodes (303-304) arranged between the two lateral electrodes (305) so as to connected to the two lateral electrodes (see figure 8).

With respect to claim 2, Yamakoshi discloses that the end peripheral portion of the plate-like electrode where the connecting is provided forms a right angle to the RF cable on the plane formed by the plate-like electrode at the connection portion (see figure 8, the cable (8a-8b) forms a right angle with electrode 305).

With respect to claim 4, Yamakoshi discloses that the RF cable is directed in parallel with the plurality of longitudinal electrodes to connect to the plate-like electrode at the connecting portion (see figure 8, the cable (8a-8b) forms a right angle with electrode 303-304).

With respect to claim 5, Yamakoshi discloses in figure 8 that the RF cable (8b) directly connects to one of the plurality of longitudinal electrodes (304) at the connecting portion (9a).

With respect to claim 8, Yamakoshi discloses in figure 8 that a plasma CVD device (1A) comprises a radio frequency power supply structure (5a).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakano et al. (U.S. 2002/0157608 A1) discloses a performance evaluation method for plasma processing apparatus.

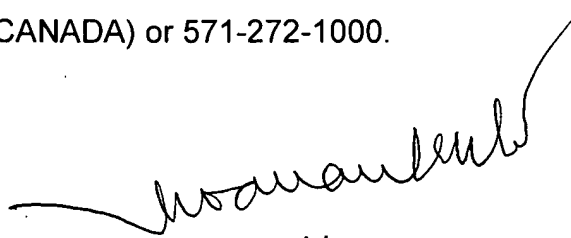
Art Unit: 2821

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan can be reached on 571-272-1834740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
Tung Le



Hoanganh Le
Primary Examiner

AU 2821
December 9, 2006